Test and Evaluation Days 2004

"The very successful Army Test & Evaluation Days, with the established, long-standing International Test and Evaluation Association (ITEA) Annual International Symposium, will present to the T&E and Acquisition community 'Test Week 2004' August 29-September 2, 2004, in the South Hall, Von Braun Center, Huntsville, AL. This conference presents a unique opportunity for two extremely influential communities to come together and present a unified technical program to discuss and address the challenges that face the professional industry/government/academia test community involved in supporting our nation. A spectacular exhibition will also be held in conjunction with our conference, featuring hands-on demonstrations, hardware, and displays from industry, government, and academia."

Websites:

www.testevaldays.com

and www.itea.org

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In This Issue...

From the ATC Commander

by Colonel Mary Brown, Commander, Aberdeen Test Center

Col. Mary K. Brown

ATC is continuing to support the war effort by performing extensive survivability and automotive performance testing on numerous add-on armor kits for various vehicles including the HMMWV, FMTV, PLS and USMC MTVR. The tests are designed to address the effectiveness of the add-on armor in preventing crew casualties as well as to evaluate the robustness of the armor when integrated onto the vehicles. Even an air conditioner unit has been evaluated; due to the addition of the armor to the vehicles and the inability of the Soldiers to open the windows any more, air conditioning has become vital to the Soldiers' ability to function effectively in the up-armored vehicles.

Three ATC Soldier, Operator, Maintainer, Tester, & Evaluator (SOMTE) personnel, MAJ Cisney, SFC Kelley, and SGT Morris, have deployed to Iraq in order to assist PEO Soldier in establishing three new in-theater Rapid Fielding Initiative (RFI) distribution sites and to conduct field trials of the Petroleum Handlers Glove System (PHGS).

RFI is a hugely successful program launched in 2002 by PEO Soldier to quickly provide units and soldiers deployed/deploying to Operation Enduring Freedom and Operation Iraqi Freedom with the individual equipment necessary to complete their missions.

You may remember that on May 6, 2002, the ATC Future Force Office, then the Objective Force Office, was established. In just two years, this office has had a positive effect on the command as we prepare to tackle the technical challenges associated with the testing of the Future Combat Systems (FCS). In FY03, funding was received to posture the command to successfully test the new technologies expected to be on the FCS variants. All command cores are benefiting from this funding. The Future Force Office has also received funding for the ATC Distributed Test Control Center (DTCC), which will be ATC's focal point for FCS and FCS complementary distributed testing. ●

Technical Director's Corner

by Jim Fasig, Technical Director, Aberdeen Test Center

Fasig's Retiring (again!)

James W. Fasig

By the time you read this I'll be on my own. Clearly, I'll miss the ATC workforce and the teamwork that makes ATC great. Supporting the Warfighter, the men and women that are a put in harm's way, is ATC's mission. A mission that is both challenging and rewarding. Throughout my career the impact this test center has had on the quality and performance of the Warfighter's equipment is awesome. Everything from combat boots to M1 Main Battle Tanks have been touched at ATC to assure the highest quality performance in combat.

I will also miss the PMs and their staffs who have rightfully challenged ATC to be efficient and effective! The PMs and PEOs have invested in ATC. They have provided critical dollars to support our initiatives and help us to always be at the pinnacle of technology.

Looking to the future, I believe ATC is positioned to lead by example. We have the tools and capabilities to meet the technology challenge of our customers. Some examples:

- ATC has partnered with the Corps of Engineers to build two new Environmental Chambers. One is a two-bay non-firing chamber (similar to B-450). The other is a firing-chamber with a capability to handle any weapon in our inventory. Beneficial occupancy August 2005.

- Close combat testing is moving quickly to reality at Mulberry Loop and Michaelsville. PEO Soldier has partnered with ATC to develop and construct a test capability that fully tests the individual soldier in a realistic urban test environment and to also upgrade our Michaelsville Small Arms Test Range. Initial operation capability will be October 2004.

- Future Force Team is establishing a Distributed Test Control Center at ATC to participate in distributed tests throughout DTC and with Lead Systems Integrator contractors (Boeing, SAIC). The FCS Combined Test Office (CTO) has also commissioned the Future Force Team to develop and construct a Node for their use during the development and fielding of the Future Force Systems.

- We are on track to achieve ISO 9000 certification in the first quarter of FY05. This is clearly a quality move for ATC. Achieving certification will enable ATC to assure test customers that we consistently follow established procedures and provide quality service to them. They will know that we have a work environment focused on continual improvement.

- The new Roadway Simulator enables ATC to continue to be a center of excellence for Automotive Technology.

- Our Littoral Warfare Environment Test Facility will provide our customers the ability to stress their systems in various sea state conditions without risk of catastrophic results.

- VISION, a holistic knowledge system based on a modular embedded instrumentation foundation.

  — This modular system of instrumentation measures the critical parameters of the item being stressed. It is VISION's foundation.

  — The modular data system is controlled, monitored and configured by a networked communication system – the pillars of VISION.

  — The Digital Library supports information fusion and services users' needs and is the VISION capstone.

- We have only scratched the surface of the VISION capability so far. This unique system can support distributed testing, provide testers and customers quality information regarding their projects, assist the ISO process and enable the rapid acquisition of material for the Warfighter. VISION is ATEC's information system and has proven its value in the FMTV competitive truck re-buy test and the tests of the Stryker family of vehicles. Without VISION these test projects would have taken significantly longer to conduct.

The good news is that ATC was great before I came and will be great after I leave. Without a doubt I know every member of this command, contractor, soldier and civilian knows the importance of our work and our duty to the Warfighter. ●

ATC Globe

On the Cover

The anti-tank Stryker fires a Tube-launched, Optically-tracked, Wire-guided (TOW) missile during a test at ATC

Photo by James M. Aguiar, IIC

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Commander *COL Mary K. Brown*
Editor *Vonnie Hughey*
Technical Director *James W. Fasig*
Design *International Imaging Center*

ATC Recovers Stranded Boats

As a result of last fall's Tropical Storm Isabel, four boats washed ashore on the restricted shoreline of Aberdeen Test Center (ATC).

The storm surge that accompanied Isabel carried the boats from the Eastern Shore across the Chesapeake Bay to a shoreline of ATC's.

While one boat ended up just off the water, the other three ended up almost half a mile inland. The boats were discovered a few days after the storm during damage surveys of the test center.

Unfortunately, the boats, which ranged in size from 20-35 feet, washed ashore into areas containing unexploded ordnance, better known as UXO, making them hard to retrieve. Despite the challenges, ATC was determined to remove the boats.

"We are boaters here (at ATC). We live in the community. We understand the plight of lost boats," said Ray Ward, technical assistant to the commander.

In order to retrieve the boats, a UXO sweep had to be done of the area.

Over-flights and reconnaissance missions also took place to determine the safest, most effective way to get the boats out.

Over a period of almost four months, a team of government and contract personnel recovered three out of the four boats. The fourth, a 22-foot sail boat, was salvaged.

"The risk involved in recovering that particular boat was more than we would take on," said Ward.

Instead, all personal property and anything that could potentially cause an environmental problem were removed. All that remains is the hull.

The first boat to be retrieved, a 24-foot Sea Ray, was rigged by ATC personnel and then dragged by a private salvage company back into the water.

A 20-foot Sea Pro, the second boat to be retrieved, was too far inland to be returned to the water. Instead, it was removed by using a crane equipped with a winch and then lifted onto the back of a flatbed truck and driven out.

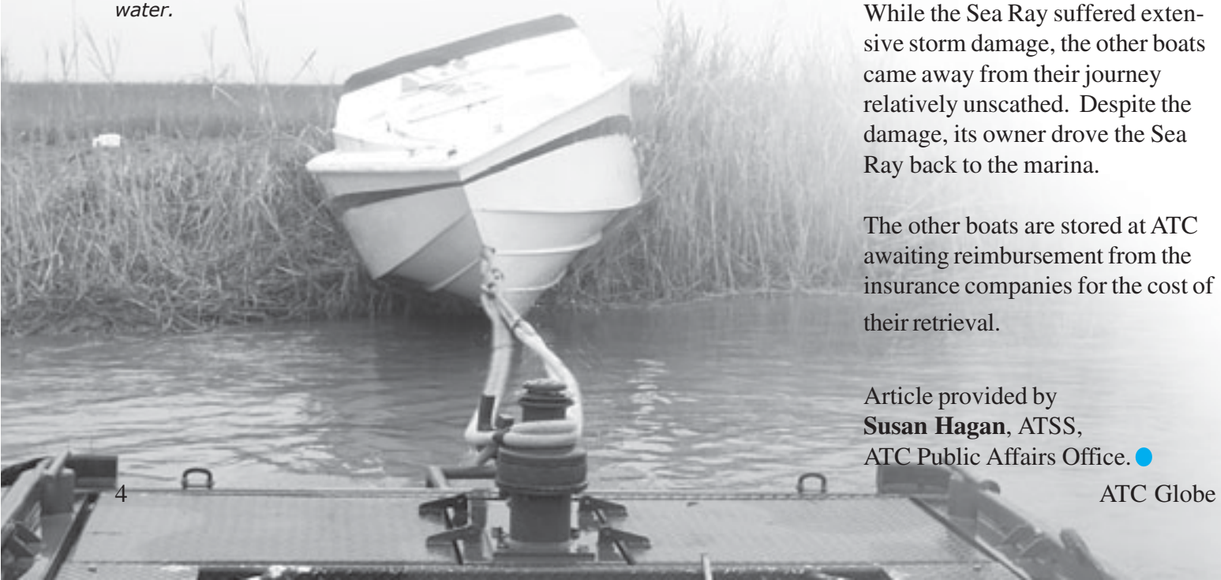
The last boat to be retrieved, a 35-foot Sonic Wave, was dragged into a nearby creek and then towed by a bridge boat back into the bay.

While the Sea Ray suffered extensive storm damage, the other boats came away from their journey relatively unscathed. Despite the damage, its owner drove the Sea Ray back to the marina.

The other boats are stored at ATC awaiting reimbursement from the insurance companies for the cost of their retrieval.

Article provided by **Susan Hagan**, ATSS, ATC Public Affairs Office.

A bridge boat pulls the 35-foot Sonic Wave back into the water.



ATC Provides Vital Support to War Against Terrorism in Iraq

(Excerpted in part from an Army Developmental Test Command article.)

Since World War I, the Army has been testing weapon systems at Aberdeen Test Center (ATC). ATC employs the expertise of scientists, engineers and technicians to test major combat vehicle systems as well as munitions, small arms, components of uniforms, tents, and even vessels used by the Navy and Marine Corps. The M1 tank and Bradley Fighting Vehicle that soldiers have relied upon so heavily in Iraq underwent extensive developmental testing at ATC.

A Bradley Fighting Vehicle fords the water in a low spot on one of the roadway courses at ATC on APG. ATC has tested the Bradley, the Abrams tank and other vehicles that saw action during Operation Iraqi Freedom.

As the Army geared up for Operation Iraqi Freedom, ATC provided a wide range of technical support that contributed substantially to the war effort, and ATC technical expertise supports ongoing operations.

When an armor vulnerability of the Abrams M1A1 tank was discovered, ATC reacted quickly to help design, fabricate and test prototype add-on armor for the tank. ATC's team needed only seven days to help develop a concept and fabricate the armor enhancement.

The 3rd Infantry Division found it needed to enhance the situational awareness and passing of messages from tank to tank using the Force XXI Battle Command, Brigade and Below (FBCB2) communications system. The Blue Force Tracker, a satellite based FBCB2 system, was added to 3rd ID tanks to meet this need. ATC extensively tested the system to ensure it would not be adversely impacted by electromagnetic interference and did the tests needed to certify the safety of the equipment.

ATC conducted electromagnetic interference testing of additional radios placed in a 1st Armored Division brigade commander's M1A1 Command Vehicle. ATC technicians traveled to Germany to assist in the modification of the commander's tank. Other 1st AD brigade commanders would use vehicles outfitted with similar equipment. ATC also tested the equipment and completed a safety certification.

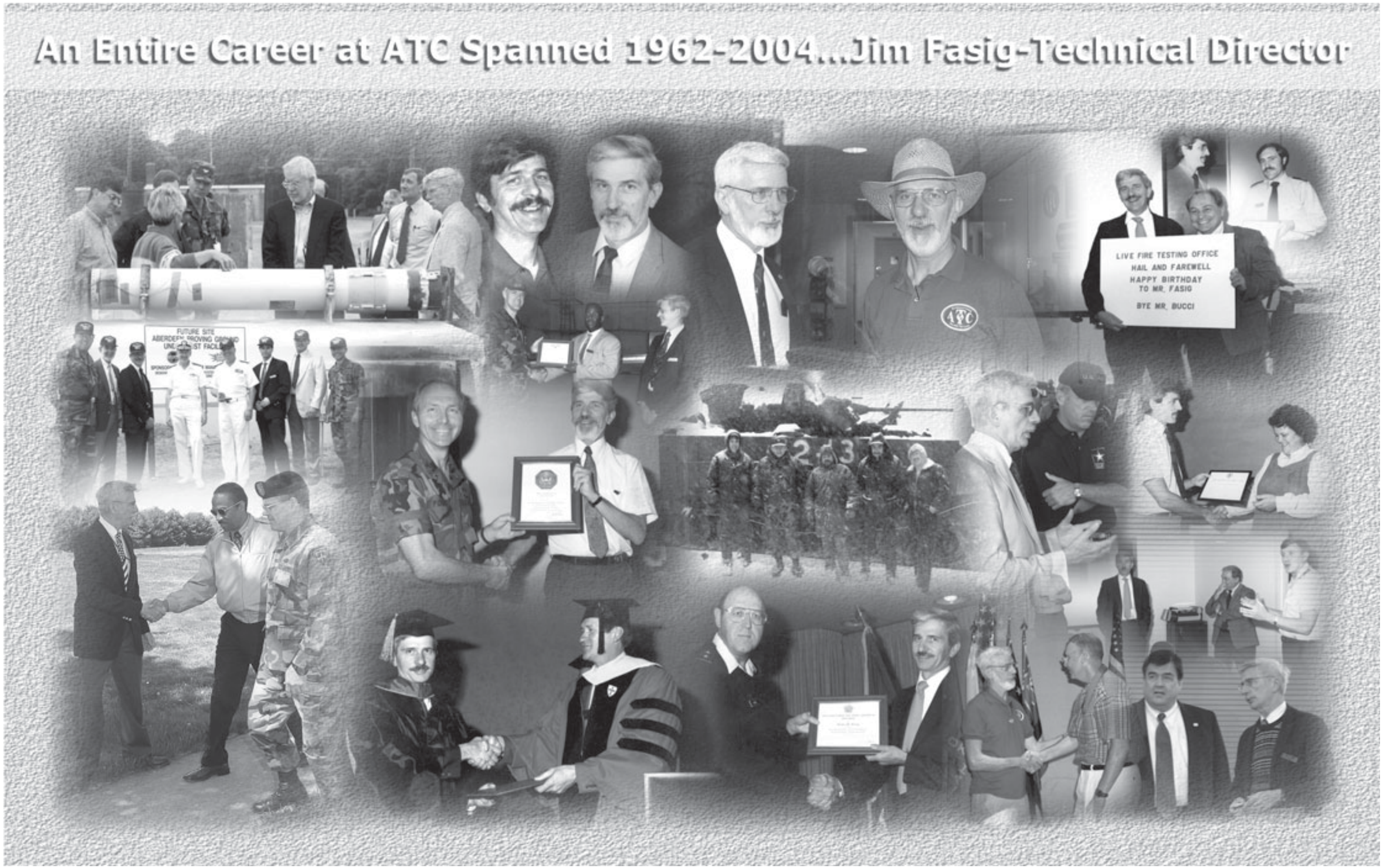
The Army's System Enhancement Package for the Abrams M1A2 tank included new software for the tank's nuclear, biological and chemical protective system. Software improvements to FBCB2 databases and maps of Iraq were included in the package, tailored to the needs of the 4th Infantry Division and 1st Cavalry Division. ATC also tested this software to certify its safety for use in the field.

ATC received a contract to fabricate 16 containers used to transport spare vehicle power packs around the world. Its Welding and Machine Shop copied the designs of existing containers, ordered the needed materials and quickly began fabricating the containers when the materials arrived.

The test center's Support Equipment Team tested the Improved Ribbon Bridge, deployed with military units in February 2003 in support of Operation Iraqi Freedom. They also tested the Dry Support Bridge and the Wolverine Bridge, deployed so forces could cross gullies and low spots throughout the Iraqi desert.

ATC provided a wide range of other types of support before and during U.S. military operations overseas, often working long hours to get the job done as quickly as possible.

An Entire Career at ATC Spanned 1962-2004...Jim Fasig-Technical Director



Stryker Mobile Gun System Continues to Undergo Production Qualification Testing

Since arriving at ATC in late 2002, the Stryker Mobile Gun System (MGS) has undergone several significant changes that have improved both system reliability and function. Initially slated for a Low Rate Initial Production (LRIP) decision in late 2003, the MGS had significant challenges, primarily in the software and ammunition handling system components.

Mobile Gun System test firing at US Army Aberdeen Test Center.

An aggressive joint government/contractor shakedown test at ATC identified a number of deficiencies that were redesigned by the prime contractor, General Dynamics Land Systems (GDLS). Now, over three-quarters of the way through the Production Qualification Test (PQT), 11 software versions and over 100 modifications later, the MGS has nearly reached the point where it's ready for the soldiers in the field. At present the LRIP decision is scheduled for September 2004; data reduction continues on testing to date.

"ATC has been the driving force during the MGS PQT, and has become the location of choice for the Program Manager (PM)," says Brian Hill, the lead test director on the program. "We're constantly at the forefront of the MGS test effort. Every significant change comes here first, and all of the software changes are regression tested here before they're released to the rest of the fleet. We've even run tests and validations for the Operational Test Command and the PM to verify that the systems are ready for operational testing, and supplied instrumentation and expertise across the country at every off-site MGS exercise."

The ATC MGS test team was recently honored by COL Brown with the Commander's Quality Award for 2003.

Hill also points out the dividends to the effort put forth by the team at ATC. "The PM has decided to conduct a follow-on Reliability, Availability, and Maintainability (RAM) test to validate production fixes after the LRIP decision has been made. Because of the long lead time between when the vehicles are purchased and when they'll actually be delivered, we have time to fine-tune the modifications and fixes. By the time the soldier actually sees the vehicle it will probably have another couple of dozen improvements and software changes."

ATC's ability to test beyond the scope of what was originally planned while staying under budget has also impressed the PM. "We've run every type of engineering excursion or additional test that's come across the board, and will continue to do so from now until the end of the Production Verification Test (PVT)," says Hill. "As it looks right now, we will keep up the six day weeks and double shifts through the end of 2006."

To date, seven of the eight MGS vehicles in existence have been tested at ATC, while originally only three were slated for testing at ATC.

"This has been a true challenge for everyone involved, from the PM office to GDLS to the workforce at ATC," says Hill. "Early on we decided that we didn't have time for any conflicts between the contractors and the testers. What has evolved is a team with one goal in mind, regardless of who signs your paycheck. Yes, we've had our setbacks, but in every case we've learned from them, and the result is a system that's leaps and bounds from where it was when the first vehicles rolled off the trucks 18 months ago."

For additional information, contact **Brian Hill** at DSN298-0539, commercial 410-278-0539, e-mail: brian.hill@atc.army.mil.

ISO Accreditation for ATC's Chemistry Unit

On March 6, 2004, the Petroleum, Oils, Lubricants, and Fuels Testing Laboratory received official accreditation for ISO/IEC 17025 from the American Association for Laboratory Accreditation. The scope of the accreditation covers all fuels and oil analyses the laboratory conducts. This is the culmination of over a year of hard work to create a working Quality Management System that encompasses the laboratory's mission, scope of testing, procedures, internal operating procedures, training and reporting.

Oils Laboratory

Fuels Laboratory

The Chemistry Unit has always verified analyses and methods to provide the best data to its customers. This accreditation adds the credibility of the international community to the Petroleum, Oils, Lubricants, and Fuels Testing laboratory. Now everything that affects the quality of the system is looked at and monitored such as standards, controls, equipment, supplies, suppliers and personnel. All data reports are peer reviewed prior to release. Customers are assured that their samples, data, and reports are controlled throughout the testing process and that information is maintained for five years.

The Quality Manual that was developed for the Quality Management System is a living document and the group is required to continuously find ways to improve the overall system. Improvements are also generated through continuous interaction with our customers which culminates in a report card assessment on how we performed and what changes they would like to see.

The key to successfully accomplishing this effort and maintaining it has been the proactive interaction with our management. They have signed on as owners of the process, so they hold review meetings covering all aspects of the system and they include it in their strategic planning.

The Petroleum, Oils, Lubricants, and Fuels Testing Laboratory was also recently recognized by the Army Petroleum Center for Superior Performance in the 2003 Army Lab Correlation Program scoring 100 percent for fuel analysis.

The Chemistry Unit personnel who worked so hard to achieve this new mark of excellence are lead by the unit chief, Judy Galloway. The unit includes Gwen McKinney, the group leader and quality manager, analysts John Courts and Jim Sellare, and contract technicians, Bridgett Harris, Valerie Young and Ralph French. The unit is presently pursuing additional ISO/IEC accreditations for the organics, inorganic, emissions and materials analysis functions as well.

For additional information, contact **Judy Galloway** at DSN298-7990, commercial 410-279-7990, e-mail: judy.galloway@atc.army.mil or **Gwendolyn McKinney** at DSN298-2868, commercial 410-278-2868, e-mail: gwendolyn.mckinney@atc.army.mil.

Hudson Named New Firepower Director

ATC Commander Col. Mary Brown has announced that **Kenneth (Ken) L. Hudson** has been selected as the new director of ATC's Firepower Core. Hudson replaces **Richard Bucci** who was the Firepower Core Director until he retired in May 2003.

Hudson began his government career in 1982, working part-time for the U.S. Army Materiel Systems Analysis Activity (AMSAA) while a high school senior. Through college, he continued to work part-time for AMSAA as a mathematics aide supporting war-game simulations.

After he obtained a Bachelor of Science degree in Mechanical Engineering from University of Maryland College Park in 1988, he began his career with the U.S. Army Combat Systems Test Activity (now ATC) as a test director in the Close Combat Vehicles Directorate. Hudson gained automotive and fire control testing experience while progressing to serve as ATC's Bradley Fighting Vehicle System Test Team Leader.

In 1992, Hudson moved to ATC's Environmental Office to add a tester's perspective to the compliance staff. He gained experience across the environmental compliance spectrum (hazardous waste, wastewater, pollution prevention, environmental planning, air, storm water).

In 1994, he received a master's degree in Environmental Engineering from Johns Hopkins University.

In 1995, Hudson co-developed the Military Environmental Technology Demonstration Center (METDC) concept. The focus of METDC is to leverage our understanding of environmental compliance requirements with ATC's traditional testing capabilities to demonstrate and validate the effectiveness of military environmental technologies. Hudson directed the first METDC test in 1996 (Closed Loop Washrack Demonstration).

Ken Hudson

In December 1999, he was assigned as the Chief of the Military Environmental Technology Demonstration Center of the Technology Core. In July 2000, Hudson was selected as the Chief of the Survivability/Lethality Core's Fire Protection Team at which time the METDC and Fire Protection missions were merged. During this time period the environmental technology mission grew to be a Developmental Test Center Core Competency with ATC conducting test and demonstration work in areas such as ordnance emission factors development and unexploded ordnance detection and discrimination.

In his new position as the Firepower Core Director, Hudson will be responsible for the testing of weapon systems and ammunition that range from non-lethal devices, pistols and hand grenades, to tank cannons and artillery.

Article provided by **Vonnie Hughey**, Command Staff.●

Baltimore Federal Executive Board Honors ATC employees

The 37th Annual Excellence in Federal Career Awards luncheon to honor all award winners was held on Friday, May 7, at Martin's West. The purpose of these awards is to honor outstanding federal employees who have given exceptional and meritorious service and to encourage high standards of performance. ATC submitted nominations in nine categories and had finalists in all nine of these categories. Congratulations to everyone!

ATC's gold winner was James R. Baldwin, for the Outstanding Para-Professional (Technical, Scientific and Program Support). Baldwin is an engineering technician working on the Experimental Fabrication Team with the Survivability/ Lethality Core.

ATCs Silver winners were:

- Outstanding Supervisor (Grades 13 and above) - John R. Wallace, Director of Automotive Core.
- Outstanding Supervisor (Grades 12 and above) - Paul D. Hutchins, welding supervisor, Survivability/Lethality Core.
- Outstanding Professional (Technical, Scientific, and Program Support) – John A. Hersey, mechanical engineer, Automotive Core.
- Outstanding Professional (Administrative and Management) – Michael J. Knoblauch, Budget Analyst, Command Staff
- Outstanding Para-Professional (Administrative and Management) – Regina F. Burston-Valley, computer specialist, Warfighter Core.
- Distinguished Public Service Career – John F. Reynolds, Former ATC employee who retired as Chief of the Experimental Fabrication Team, Survivability/Lethality Core.
- Rookie of the year (Professional) – Jacob M. Rubinstein, electrical engineer, Future Force.
- Rookie of the year (Para-Professional) – Seth E. Lyter, equipment specialist, Survivability/Lethality Core. ●

(left to right) Mike Knoblauch, Lindsay Yowell (accepted for Regina Burston-Valley), Paul Hutchins, Jim Baldwin, John Reynolds, Seth Lyter, John Wallace, Jacob Rubinstein, and John Hersey.

Acting Technical Director Named

John R. Wallace

John R. Wallace has been named the Acting Technical Director for ATC, pending the selection of a replacement for Jim Fasig. Prior to this assignment, Wallace was the director of the Automotive Core since 2000.

He began his federal career in 1968 with the Material Testing Directorate (now ATC). He has served as an instrumentation and project engineer on a wide variety of automotive and fire control test programs. Since 1987, he has held technical management positions in ATC including Chief, Instrumentation Design and Methodology Branch; Chief, Combat Vehicles Division; Chief, Automotive Test Division; and Chief, Automotive Instrumentation Team.